

What is claimed is:

1. A passive touch system comprising:
a passive touch surface;
at least two cameras associated with said touch surface, said at least
two cameras acquiring images of said touch surface from different locations and
having overlapping fields of view; and
a processor receiving and processing images acquired by said at least
two cameras to detect the existence of a pointer therein and to determine the location
of said pointer relative to said touch surface.
2. A passive touch system as defined in claim 1 wherein said at least two
cameras are two-dimensional image sensor and lens assemblies having fields of view
looking along the plane of said touch surface.
3. A passive touch system as defined in claim 2 wherein said processor
determines the location of said pointer relative to said touch screen using
triangulation.
4. A passive touch system as defined in claim 3 wherein said processor
determines when the pointer is in contact with said touch surface and when said
pointer is hovering above said touch surface.
5. A passive touch system as defined in claim 2 wherein said processor
selects pixel subsets of images acquired by said image sensor and lens assemblies and
processes said pixel subsets to determine the existence of said pointer.
6. A passive touch system as defined in claim 5 wherein said pixel
subsets are determined during an alignment routine.
7. A passive touch system as defined in claim 2 wherein said processor
includes a digital signal processor associated with each image sensor and lens
assembly and a master digital signal processor in communication with the digital
signal processors associated with each image sensor and lens assembly, the digital

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14. The method of claim 13 wherein during said acquiring step, said images are acquired using two-dimension image sensor and lens assemblies having fields of view looking along the plane of said touch surface.

5 15. The method of claim 14 wherein during the processing step, the location of said pointer relative to said touch screen is determined using triangulation.

Sub a1 16. The method of claim 15 wherein during said processing step, the images are processed to determine when said pointer is in contact with said touch surface and when said pointer is hovering above said touch surface.

17. The method of claim 16 further comprising the step of selecting pixel subsets of images acquired by said image sensor and lens assemblies prior to processing said images.

Sub a8 18. The method of claim 17 wherein during said processing step the existence of said pointer is determined by calculating median lines of the pointer and wherein the location of said pointer is determined by calculating the intersection point of median lines and using triangulation to determine the coordinates of said intersection point.

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